Targeting subgroups to realise value: The cost-effectiveness of omalizumab in severe allergic asthma

Rita Faria, Claire McKenna and Steve Palmer
Centre for Health Economics, University of York, UK

Background

- Patients with uncontrolled severe persistent allergic asthma balance asthma control with adverse effects from treatment.
- Omalizumab offers an effective alternative to stepping up treatment but at a substantial cost.
- Although omalizumab is unlikely to be cost-effective for the overall patient population, it may be good value for money for severe subgroups.

Objectives

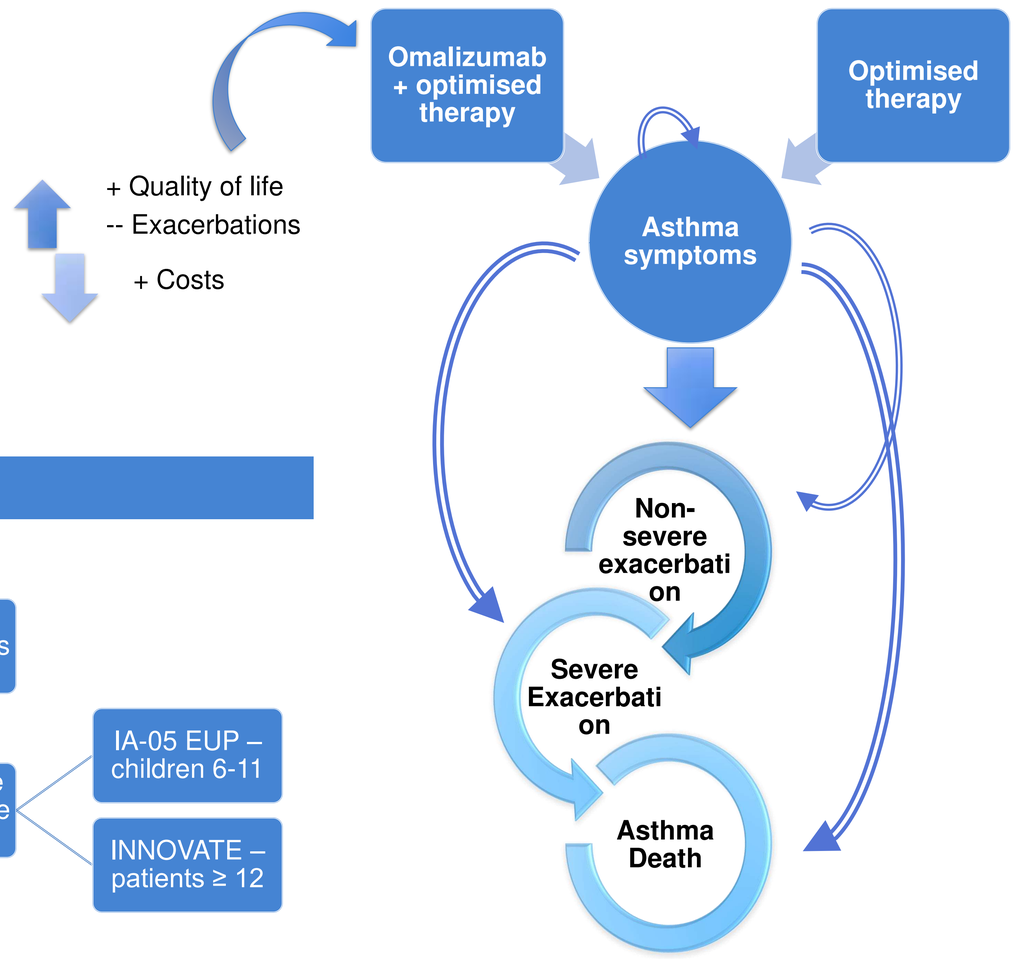
- Evaluate cost-effectiveness of omalizumab for severe persistent asthma for the overall patient population covered by the marketing authorisation and relevant subgroups under the UK NHS perspective.
- Omalizumab 75mg or 150mg solution for injection + optimised therapy vs optimised therapy alone (step 4 or step 5)
- Assessment for response to treatment at 16 weeks:

  → Non-responders should discontinue omalizumab

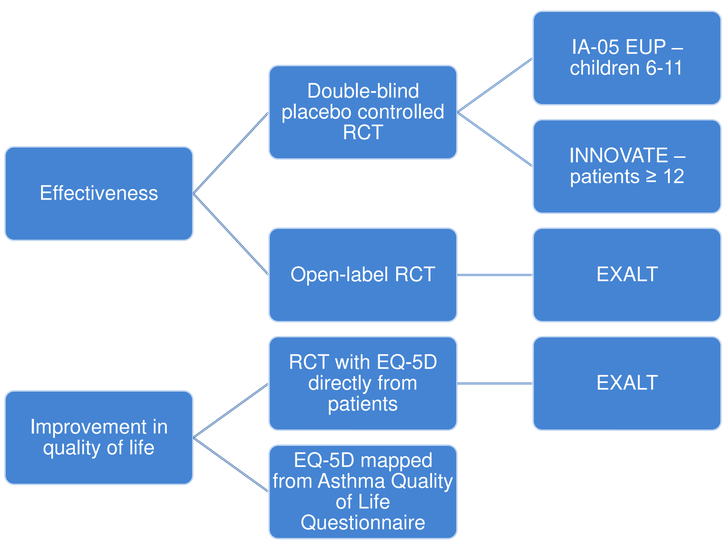
Population and subgroups

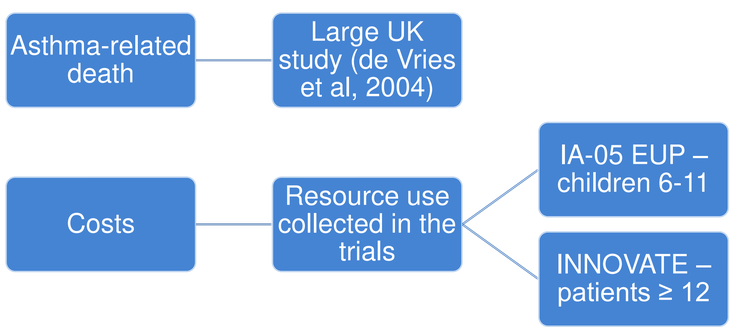
- Population reflects marketing authorisation
  - Patients uncontrolled at step 4
  - Patients controlled at step 5
  - Two age groups: 6-11 and ≥ 12
- Population subgroups defined by indicators of severity:
  - Hospitalisation for asthma in past year
  - Maintenance OCS use (step 5)
  - ≥ 3 exacerbations in the past year

The model



The inputs

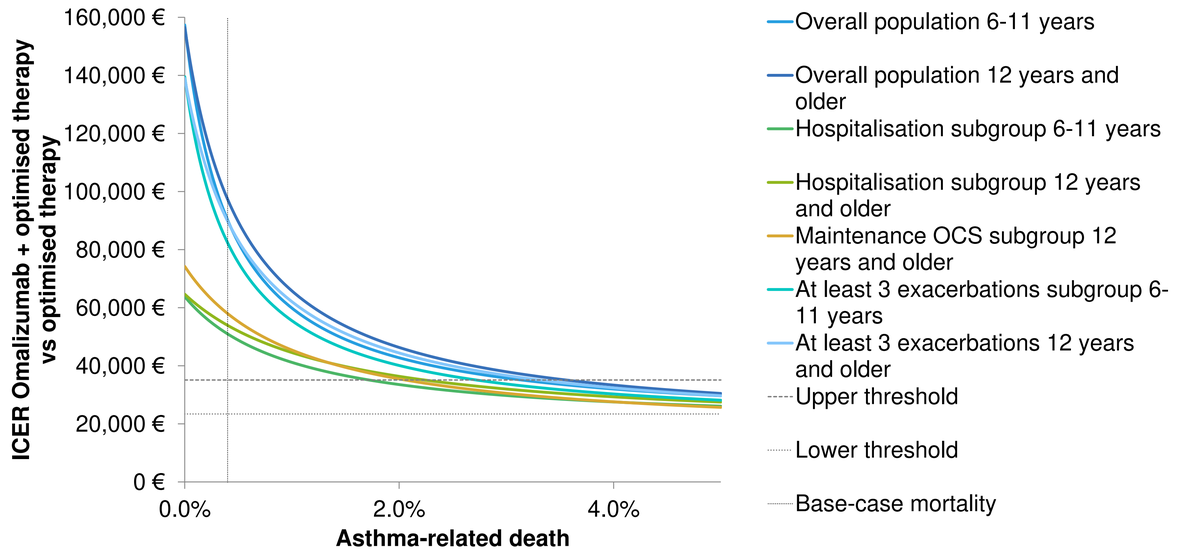




Results

Population	Age	ICER, /QALY
Overall	6-11 years	98,072€
	≥ 12 years	91,276€
Hospitalisation	6-11 years	54,324€
	≥ 12 years	51,646€
Maintenance OCS	≥ 12 years	58,712€
≥ 3 Exacerbations	6-11 years	91,106€
	≥ 12 years	89,094€

ICERs > conventional thresholds of cost-effectiveness used in the UK NHS of 23,400€ (£20,000) and 35,100€ (£30,000)/QALY



Conclusions

- Omalizumab improves the health outcomes of patients but at a high cost to the UK NHS.
- ICERs were lower in more severe subgroup but still above conventional cost-effectiveness thresholds.
- Asthma-related mortality is one of the key cost-effectiveness drivers:
  - ↑ asthma-related mortality → ↓ ICER

References and Acknowledgements

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